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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/997,730	11/28/2001	Akira Urakami	WC/469	4089

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EXAMINER

CHANG, VICTOR S

ART UNIT PAPER NUMBER

1771

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,730

Applicant(s)

URAKAMI ET AL.

Examiner

Victor S Chang

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: the Examiner suggests that, in line 1, after "comprising" insert --an--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admission in view of JP 2000-219799 (English Abstract and Machine Translation).

It appears that Applicants admitted that it is known art that porous polytetrafluoroethylene films are used as substrates for prepreg products (Specification, page 2, first paragraph). Although the admitted prior lacks express teaching of replacing the well known brominated epoxy resin with a non-brominated flame resistant epoxy resin, it is noted that JP '799 is directed to a halogen-free epoxy resin composition with excellent flame retardancy. JP '799 teaches a composition comprising (A) an epoxy resin, (B) a phosphorous containing compound as shown in Formula or a

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hydrolyzate thereof, and (C) a curing agent. It is desirable that component (B) is used in an amount of 5-50 wt %, based on 100 wt% of the composition. Further, it is desirable that the resin is used in combination with a bisphenol A or bisphenol F epoxy resin for improved flowability (English Abstract).

For claims 1-2, it would have been obvious to one skilled in the art to substitute the brominated epoxy resin in a known prepreg with porous PTFE film with a halogen-free epoxy resin composition of JP '799, motivated by the desire to eliminate the environmental related problems ([0004] of Machine translation).

For claim 3, although JP '799 does not expressly state the oxygen index of the halogen-free flame retardant epoxy resin composition, it is believed that suitable oxygen index is either inherently disclosed or an obvious optimization to one skilled in the art.

For claims 4 and 5, in Table 1, JP '799 shows four examples of formulated compositions containing component (B) with phosphorous content less than 10 wt % and flame resistance of V-0 (page 12 of Machine Translation). It should be noted that according to the Formula in Abstract, the phosphorous content in component (B) is theoretically less than 50 wt%, based on 100 wt% of component (B).

For claim 6, although the admitted prior art does not expressly teach the weight ratio of the porous PTFE film substrate and the epoxy resin in the prepreg, it is believed that suitable impregnation ratio is either inherently disclosed, or an obvious optimization to one skilled in the art.

For claims 7 and 8, it is believed that including an inorganic filler in epoxy prepreg formulation is old and well known. Note also as evidence of the state of the art

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JP 11-279378, which teaches that inorganic filler such as calcium carbonate, silica, and talc, etc., is known art.

For claims 9 and 10, it is believed that epoxy prepregs are commonly used to form wiring board laminates.

Claim 11 is rejected for reasons as set forth above.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 703-605-4296. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

VSC
March 18, 2003

DANIEL ZIRKER
PRIMARY EXAMINER
GROUP ~~1900~~

1700

Daniel Zinker